PARTICULATE MATTER
MONITORING NETWORK DESCRIPTION
FOR A
MOJAVE DESERT
MONITORING PLANNING AREA

PREPARED BY

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0   INTRODUCTION

This plan provides a description of the PM2.5 and PM10 ambient monitoring network designed for the Mojave Desert Monitoring Planning Area (MPA). Airborne particles with aerodynamic diameter less than 10 microns (PM10) are small enough to be inhaled. The PM10 includes fine particles with aerodynamic diameter less than 2.5 microns (PM2.5) as a component. The deployment of the PM2.5 network is critical to the national implementation of the new PM2.5 National Ambient Air Quality Standards (NAAQS). The ambient data from this network will be used for designating areas as attainment or nonattainment, developing particulate matter control programs, and tracking the progress of such programs.

During the early stages of the PM2.5 network design process, the Air Resources Board (ARB) and the local air quality management districts established MPAs for the State. The entire State is covered by 18 MPAs. These MPAs will be used for planning monitoring locations for PM2.5. They are not intended for designating areas as attainment or nonattainment or planning control measures. The boundaries to be used for these purposes will not be established until adequate PM2.5 data are available. The ARB and the local air quality management districts will recommend appropriate nonattainment boundaries to the U.S. EPA.

The proposed PM2.5 monitoring network for the Mojave Desert MPA includes four monitoring sites. In most cases, the PM2.5 sites are located at existing PM10 sites. Each monitoring site will operate a PM2.5 Federal Reference Method (FRM) monitor and three of these sites also include a speciation monitor to further define the chemical composition of the PM2.5. The individual monitors will be operated by following agencies:

- ▸   Antelope Valley APCD - 1 site.
- ▸   Air Resources Board - 1 site.
- ▸   Kern County APCD - 1 sites.
- ▸   Mojave Desert AQMD - 1 site.

1.1.   Physical Setting

The Mojave Desert MPA is the same as the Mojave Desert Air Basin located in the southeastern part of California. It includes the eastern part of Riverside County, and the northeastern portion of the San Bernardino County along with a northeastern portion of LA County. Also included is a southeastern portion of Kern County. The Mojave Desert MPA covers an area of over 18,000 square miles of desert terrain, but includes only 315,000 persons. The area has been, and remains to this day, a relatively rural and sparsely populated. The region has only a few sparsely populated centers of urban development.

1.2   Population Characteristics

The population of an Metropolitan Statistical Area (MSA) is one of the key parameters in determining the minimum number of required monitoring sites per the U.S. EPA PM2.5 regulations. The MSAs included in the Mojave Desert MPA are listed along with 1990 population figures in Table 1.5.1. The counties included in the MPA are listed along with population figures in Table 1.2.1.

Table 1.2.1   Population in the Mojave Desert MPA by County

County	Population (based on 1990 figures except where noted)	
Kern County (P)	80,362	
Los Angeles County (P)	188,409	
Riverside County (P)	25,617	[1997data]
San Bernardino County (P)	279,516	
Total Population	**573,904**	

(P) - Portion of a county within the MPA

1.3   Climate and Weather

The climate of the Mojave Desert MPA is characteristic of a desert environment. The large San Gabriel and San Bernardino mountain ranges block the desert from the cool, moist coastal air of the South Coast Air Basin. The Mojave Desert region generally experiences hot, dry summers and mild winters with very little annual rainfall (from 2 to 5 inches per year). Meteorology is influenced by a moderately intense anticyclonic circulation, except during periods of frontal activity during the winter. On average, 20-30 frontal systems (e.g., storms) move into the Mojave Desert each winter. During the summer, the Mojave Desert area is generally influenced by a Pacific Subtropical High cell that sits off the coast of California. Prevailing winds are out of the west and south, tending to be a west to east flow across the area.

1.4   Dominant Economic Activities and Emission Sources

In the Mojave Desert MPA, there is mining, manufacturing and construction, tourism, recreation, and specialty agricultural. Also, trucking and warehousing have recently been expanding as have the service industries, government, transportation, and public utilities.

The PM2.5 in California's air is the result of primary and secondary particulates. Primary particulate emissions are directly emitted from sources such as residential fireplaces, diesel trucks, forest burning, dust sources, and industrial processes. Secondary particulates form when gaseous or non-particulate substances react in the atmosphere with other substances to produce particulate

matter.

The predominant sources of directly emitted PM2.5 vary regionally in California. In the Mojave Desert MPA, inventory estimates show that the largest contributors of directly emitted PM2.5 are geologic dust sources. Other sources in the Mojave Desert MPA, like mobile, industrial, and burning are estimated to be less substantial PM2.5 contributors.

Precursors to secondary PM2.5 formation in California include oxides of nitrogen (NOx) from motor vehicles and other combustion sources, ammonia emissions, certain organic substances which form particulate matter, and additional emission sources. Secondary particulate levels are highly variable and are dependent on atmospheric conditions and precursor levels for formation. For example, in some regions at certain times of the year the secondary particles can comprise 50% or more of the total ambient measured PM2.5 concentrations. At other times, the secondary particulates are nearly negligible. Because secondary particles form through complex and variable atmospheric processes, it is not currently possible to produce accurate secondary particulate emission estimates as can now be done for the primary, directly emitted PM2.5.

1.5 PM2.5 Monitoring Requirements

Based upon the U.S. EPA PM2.5 regulations, all Metropolitan Statistical Areas with population greater than 200,000 are required to have a core PM2.5 SLAMS (this is a site in a populated area representing PM2.5 concentrations on a neighborhood or urban scale). The required number of core SLAMS and the required sampling frequency are determined by the 1990 census population statistics for each MSA. In general, the greater the population in an MSA, the more monitoring sites required for that area. One additional core monitor that samples everyday is required in every Photochemical Assessment Monitoring Station (PAMS) area.

The Mojave Desert Monitoring Planning Area (MPA) includes portions of three Primary MSAs (PMSAs): Riverside-San Bernardino, Los Angeles-Long Beach, and Bakersfield. In all three of these PMSAs, the largest population centers are located outside of the Mojave Desert MPA boundaries. Consequently, only a small fraction of the monitoring requirements for these PMSAs apply to Mojave Desert MPA itself. There are no PAMS areas in the Mojave Desert MPA.

The regulations also require a PM2.5 monitor for every 200,000 people living either outside of an MSA or in MSAs with fewer than 200,000 people. These additional sites are supposed to sample for PM2.5 once every three days. Since the Mojave Desert MPA is covered by MSAs or PMSAs, no additional monitors are required.

Table 1.5.1 identifies the number of core PM2.5 monitoring sites to be operated within the Mojave Desert MPA.

Table 1.5.1 Required and Planned Core PM2.5 Monitors

MSA/PMSA/County	Population in 1990	Required* Core PM2.5 Monitors		Planned PM2.5 Sites
		Sampling everyday	Sampling 1 in 3 day	
Riverside-San Bernardino PMSA	8,863,164	2-3**	8	1
Los Angeles-Long Beach PMSA	2,588,793	2-3**	2	1
Bakersfield PMSA	543,477	3	0	2
Total	11,995,434	8	10	4

*   The number of required monitors is based on the population in the MSA. In each of the MSAs listed in the table, the largest population centers are located outside of the Mojave Desert MPA boundaries. Consequently, only a small fraction of the monitoring requirements for these PMSAs would apply to Mojave Desert MPA. Other required monitors will be located in the South Coast MPA or the San Joaquin Valley MPA, as appropriate.

**   The number of monitors would depend on the location of core monitors required in the South Coast PAMS. This monitor may be located in the Los Angeles-Long Beach PMSA or in the Riverside-San Bernardino PMSA.

2.0   PM2.5 MONITORING NETWORK ELEMENTS

This section summarizes PM2.5 monitoring sites planned for deployment in 1998 and 1999. In most cases, existing particulate matter monitoring sites will be used for the additional PM2.5 monitoring. The existing particulate matter data have assisted in the design of the PM2.5 network by providing information on the trends and the magnitude of concentrations. These data will be valuable in the future in understanding the particulate size distributions of emission sources and developing control strategies. The particulate matter monitors currently operating at the sites selected for PM2.5 monitoring are also summarized in this section.

Refer to Section 2.0 in the California Particulate Matter Monitoring Network Description for a summary of particulate matter monitoring outside of the PM2.5 monitoring network.

2.1   PM2.5 Monitors Planned for Deployment

The planned PM2.5 monitoring network will collect data for multiple objectives, including:

(1)   Comparing sampling results with the PM2.5 NAAQS to determine attainment/nonattainment status.
(2)   Developing and tracking implementation plans for the area.
(3)   Assisting health studies and other ambient aerosol research activities.

In order to understand the nature of the PM2.5 problem in the Mojave Desert and to develop control strategies, multiple monitor types will be needed. The PM2.5 Federal Reference Method (FRM) sampler is a gravimetric filter-based sampler that produces a concentration measurement of PM2.5 over a 24-hour period. The FRM alone cannot support multiple information needs of the PM2.5 network. The sampler design includes a Teflon filter that can experience a loss of volatile constituents, which can be captured and retained better by other sampling techniques. In addition, it does not provide temporally resolved data or full chemical characterization of ambient aerosols.

In addition to FRM monitors, two other types of instruments are required for deployment as part of the PM2.5 network: speciation samplers and continuous mass monitors.   Speciation samplers provide a chemical characterization of ambient aerosols for developing emission mitigation strategies and for tracking the success of implemented control programs.   Continuous PM2.5 mass monitors will collect data for public reporting of short-term concentrations, for understanding diurnal and episodic behavior of fine particles, and for use by health scientists investigating exposure patterns. However, currently available instruments for continuous measurements of suspended particulate mass have many shortcomings. The Tapered Element Oscillating Microbalance (TEOM) sampler uses a heated inlet causing evaporation of the volatile components of the air sample. The Beta Attenuation Monitor (BAM) which samples at ambient temperatures and relative humidities may overestimate particle concentrations by allowing liquid

water to be collected along with particles. The ARB and the local air quality management districts will select the type of continuous instrument best suited for the monitoring conditions in the Mojave Desert MPA.

The Mojave Desert MPA PM2.5 monitoring network will consist of four monitoring sites. All of these sites will have a PM2.5 FRM sampler deployed in 1998. The samplers will be purchased through the National PM2.5 Sampler Procurement Contract established by the U.S. EPA. One monitoring site in the MPA will operate collocated samplers for quality assurance and quality control evaluation.

PM2.5 speciation samplers are proposed for three sites in 1999. Table 2.1.1 lists the monitoring sites and the type of instruments planned at these sites. Figure 2.1.1 shows the locations of the proposed sites. The sites that will operate a continuous monitor for transport assessment will be determined during the annual network review and included in the 1999 network plan.

Table 2.1.1   PM2.5 Monitoring Network Planned for Deployment

Site Location	AIRS Site ID	PM2.5 FRM	PM2.5 Speciation	PM2.5 TEOM/BAM	Other PM2.5 Monitor
Lancaster-W Pondera Street	060379002	X	Y		
Mojave-923 Poole Street	060290011	X	Y		
Ridgecrest-Las Flores Avenue	060290012	X			
Victorville-Armagosa Road	060710014	XX	Y		

Codes:

X Monitor to be deployed in 1998
Y Monitor to be deployed in 1999
XX Collocated particulate monitors used for precision data to be deployed in 1998

2.2   Existing Particulate Matter Monitors

The existing particulate matter network in the Mojave Desert MPA consists of nine monitoring sites. The monitoring instruments operating at these sites include:

- ▸ 9 High Volume Size Selective Inlet (SSI) samplers collecting 24-hour PM10 samples.
- ▸ 1 dichotomous sampler collecting 24-hour fine fraction ($\leq$2.5 microns in diameter) and coarse fraction (>2.5 and $\leq$ 10 microns in diameter) samples.
- ▸ 1 continuous mass sampler collecting PM10 measurements hourly, using either a

Figure 2.1.1

Tapered Element Oscillating Microbalance (TEOM) sampler or Beta Attenuation Monitor (BAM) sampler.

Three of the proposed PM2.5 sites will be located at the existing PM10 sites. A PM2.5 monitoring site at Ridgecrest-Las Flores Avenue will be located at a monitoring sites where the PM10 monitoring was discontinued in 1996. Table 2.2.1 summarizes the particulate matter monitoring resources available at the proposed PM2.5 monitoring sites. The complete summary of particulate matter monitoring resources in the Mojave Desert can be found in Attachment 1 in the statewide summary.

The particulate matter data obtained from these sites are used to meet the following objectives:

- ▸ Compare measured concentrations to the State and national PM10 standards.
- ▸ Track changes in the particulate matter concentrations over time.
- ▸ Evaluate the population exposure.
- ▸ Assess the impact from transported particulate matter.
- ▸ Assist in health studies and other research.

Table 2.2.1   Existing Particulate Matter Monitors at Proposed PM2.5 Sites

Site Location	AIRS Site ID	Dichot	PM10 SSI	PM10 TEOM/BAM	Other PM Monitors
Lancaster-W Pondera Street	060379002		X	X	
Mojave-923 Poole Street	060290011		X		
Victorville-Armargosa Road	060710014	X	X		

Codes:

X	Existing monitor
SSI	High volume Size Selective Inlet sampler collecting 24-hour average PM10 samples
Dichot	Dichotomous sampler collecting 24-hour average fine fraction and coarse fraction samples
TEOM	Tapered Element Oscillating Microbalance collecting PM10 measurements hourly
BAM	Beta Attenuation Monitor collecting PM10 measurements hourly

2.3   PM2.5 Quality Assurance

The agencies operating PM2.5 monitors in the Sacramento Valley MPA will adopt a schedule for implementing quality assurance procedures developed by the ARB. Please refer to Section 3.7 in the statewide summary for more information about the schedule.

2.4   Laboratory Analyses

The FRM instruments collect PM2.5 over 24-hour periods on Teflon-membrane filters from air drawn at a controlled flow rate through a tested PM2.5 inlet. Within 96 hours after the sample collection period, the filter contained in the filter cassette will be removed from the sampler and placed in a protective container. During the period between filter retrieval from the sampler and the start of conditioning, the filter will be maintained at a temperature below 25 degrees centigrade. The filters will be transported to the mass analysis facility. The filters containing PM2.5 samples will be "conditioned" and weighed at the laboratory.

It is currently proposed that the San Diego County APCD laboratory will weigh the PM2.5 filters from Mojave Desert MPA, but the final decision has not yet been made. The Mojave Desert AQMD had expressed interest in weighing PM2.5 filters for mass analysis at the district's weigh room facility. Each PM2.5 mass weigh room facility (laboratory) submitting data as part of California's PM2.5 monitoring program needs to be precertified by the ARB. The requirements established in 40 CFR, Part 50, Appendix L, for mass analysis of PM2.5 filters are extremely stringent, more so than the requirements for mass analysis of PM10 filters. The U.S. EPA anticipates that the PM2.5 data collected by states will be subject to intense scrutiny by air agencies, Congress, industry, the public, and others. It is vital that these data be thoroughly supportable and of the highest quality.

The ARB expects to precertify the five laboratories that received funding from the U.S. EPA for upgrading their facility in 1998. The laboratory at Mojave Desert AQMD is not one of these five labs. While Mojave Desert AQMD may request and be included in the precertification process, priority will be given to the five funded laboratories. The U.S. EPA will only allow California PM2.5 mass data from precertified laboratories to be entered in the Aerometric Information Retrieval System (AIRS). Information on this is being distributed to all California districts in letters from the ARB and U.S. EPA Region 9.

Samples collected from the speciation monitors will be analyzed by a nationwide network of 1 to 3 laboratories. These laboratories will be working under contract performing the necessary laboratory analyses. The establishment of this network of laboratories is still under development, with the specific laboratories yet to be determined.

3.0 PM2.5 MONITORING SITES TO BE DEPLOYED IN 1998

During 1998, eight PM2.5 monitoring sites are planned for deployment in the Mojave Desert MPA. This section discusses the criteria used in the selection of the four PM2.5 monitoring sites along with the important parameters that characterize each site.

3.1 Monitor Siting

The existing particulate matter network in the Mojave Desert MPA is comprised of nine sites. During the PM2.5 site selection process, the following factors were evaluated:

- ▸ Population statistics and distribution.
- ▸ Land use characteristics.
- ▸ Local climate.
- ▸ Suspected area emission sources (wood smoke, agricultural burning, etc.).
- ▸ Existing particulate matter monitoring network.
- ▸ Existing particulate matter data, including data collected by the dichotomous network, PM10 network, and special studies.
- ▸ Potential transport corridors.
- ▸ Ongoing special health studies.

After the review process, it was determined that existing PM10 sites would be well suited as locations for monitoring PM2.5. Only one of the PM2.5 sites will be located where there is currently no particulate matter monitoring but there are historical PM10 data from this site. All sites selected to operate PM2.5 samplers are located in populated areas where high PM2.5 concentrations are expected. Some of these sites will provide useful information about PM2.5 transport, emission sources, and population exposure.

3.2 Site Description

The network for the Mojave Desert MPA, as proposed, includes four sites all of which will be deployed in 1998. The following characteristics apply to all of the proposed sites:

- ▸ Use a Federal Reference Monitor (FRM) type sampler purchased through the national contract established by the U.S. EPA.
- ▸ Sited in a population-oriented location.
- ▸ "Site Type" is Core SLAMS.
- ▸ Represent neighborhood spatial scale.
- ▸ Provide data that will be compared to both the annual standard and the 24-hour standard.

Based on these criteria, the following sites listed in Table 3.2.1 are identified for use for PM2.5 monitoring within the Mojave Desert MPA.

Table 3.2.1   PM2.5 Monitoring Sites to be Deployed in 1998

Site Location	AIRS Site ID	Operating Agency	Spatial Scale	Monitoring Objective	Site Type	Measurement Method
Lancaster-W Pondera Street	060379002	AV	Neighborhood	R,T,HS	C	FRM/SQ
Mojave-923 Poole Street	060290011	ARB	Neighborhood	R,T	C	FRM/SQ
Ridgecrest-Las Flores Avenue	060290012	KER	Neighborhood	R,T	C	FRM/SQ
Victorville-Armargosa Road	060710014	MD	Neighborhood	M,T	C	FRM/SQ

The following codes are used in this table:

Operating Agency:
AV	Antelope Valley APCD
ARB	California Air Resources Board
KER	Kern County APCD
MD	Mojave Desert AQMD

Monitoring Objectives:

R   Represent high concentrations in a populated area.

M   Determine the highest concentration expected to occur in the area covered by the network (more than one site per area may be needed).

T   Determine the extent of regional pollutant transport.

Site Type:
C	Core SLAMS
S	Non-core SLAMS
P	Special Purpose Monitors

Measurement Method:

FRM/SQ   Federal Reference Method Sequential Sampler

All monitoring sites in the Mojave Desert MPA will serve multiple purposes. The monitoring site at Victorville-Armagosa Road will be used to represent an area of maximum PM2.5 concentrations with high population density. The other three sites, Lancaster-W Pondera Street, Mojave-923 Poole Street, and Ridgecrest-Las Flores Avenue, are intended to be representative of poor air quality in a populated area. They may not necessarily be in an area of expected maximum concentration. All four monitoring sites will collect data for assessing transport of PM2.5 from South Coast MPA and San Joaquin MPA into the Mojave Desert. All of the sites to be used for transport assessments, except the Ridgecrest site, also collect meteorological data. Unless meteorological data are collected at the same sites as the PM2.5

data, it is difficult to assess transport. The ARB and the local air quality district are planning to add surface meteorological monitoring instruments at the PM2.5 site in Ridgecrest in 1999. The monitoring site at Lancaster-W Pondera Street participates in ongoing health studies.

The monitoring objectives at each of the monitoring sites in the Mojave Desert MPA will be further evaluated during the next year's annual network review when PM2.5 data will be available from these sites.

4.0 PM2.5 MONITORING SITES TO BE DEPLOYED IN 1999

There are no plans to establish any additional PM2.5 monitoring sites in 1999. Three of the PM2.5 sites deployed in 1998 will have chemical speciation monitors added in 1999.

4.1 Monitoring Sites Operating PM2.5 FRM Monitors

At this time, there are no plans to establish an additional PM2.5 monitoring site in 1999 operating an FRM monitor.

4.2 PM2.5 Chemical Speciation Sampling

The basic objective of the PM2.5 chemical speciation sampling and analysis program is to develop seasonal and annual chemical characterizations and distributions, across the country, of the ambient aerosols present in PM2.5 samples. These chemically resolved data will be used to perform source attribution analyses, evaluate emission inventories and air quality models, and support health related research studies.

The EPA recognizes that sampling for chemical speciation is a developing science, and encourages creative approaches to chemical speciation sampling. The ARB and the local air quality management districts will evaluate existing chemical speciation samplers and select the best-suited instruments for monitoring conditions in the Mojave Desert MPA. The selected instrument will collect samples for the currently targeted chemical analytes, that include the following:

- ▸ Cations: particulate ammonium, ionic sodium, calcium, and magnesium.
- ▸ Anions: particulate sulfate, nitrate, and chloride.
- ▸ Carbon: total, organic, and elemental.
- ▸ Trace elements: sodium, magnesium, etc., through lead.
- ▸ Semi-volatile organic particles.

The sites listed in Table 4.2.1 below were selected for collecting chemically speciated data because they best meet the following list of criteria in the order of importance:

- ▸ High PM2.5 concentrations, or expected significant contribution of PM2.5 to high PM10 concentrations.
- ▸ Located in a area of significant population density.
- ▸ Located in PAMS areas where there is a maximum precursor site for PM2.5 (this may also be a high concentration site).
- ▸ Significant for atmospheric transport determinations.
- ▸ Geographical representation of a monitored area.

Table 4.2.1   PM2.5 Chemical Speciation Sampling

Site Location	AIRS Site ID	Operating Agency	Monitoring Method
Lancaster-W Pondera Street	060379002	AV	to be determined
Mojave-923 Poole Street	060290011	ARB	to be determined
Victorville-Armagosa Road	060710014	MD	to be determined

AV	Antelope Valley APCD
ARB	California Air Resources Board
MD	Mojave Desert AQMD

4.4   Continuous PM2.5 Monitoring

The Federal regulation 40 CFR 58, Appendix D, 2.8.2.3, requires that continuous PM2.5 samplers be placed in metropolitan areas where there is a population greater than 1 million people. Continuous PM2.5 data are useful for public reporting of short-term concentrations, for understanding diurnal and episodic behavior of fine particles, and for use by health scientists investigating exposure patterns. The Mojave Desert MPA, with a population of 573,904 based on the 1990 census, is not required to have a continuous PM2.5 monitor.

The ambient concentrations of PM2.5 in the Mojave Desert MPA could potentially be impacted by particulate matter transported by surface winds from San Joaquin Valley MPA or South Coast MPA. For transport identification, an hourly temporal resolution of PM2.5 concentrations is necessary. Initially, the ARB and the local air quality management districts propose to evaluate the following transport corridors in this area:

- ▸ Tehachapi Pass.
- ▸ Soledad Pass.
- ▸ Cajon Pass.

This is a tentative proposal and will be further evaluated next year, after we collect more PM2.5 data. At the transport sites, we are considering deploying continuous monitors and surface meteorological instruments (wind speed, wind direction, temperature, relative humidity, and solar radiation). The most appropriate type of continuous particulate matter monitor for transport assessment will be determined in the future.

5.0   PM2.5 SAMPLING FREQUENCY

The U.S. EPA requirements call for everyday sampling of PM2.5 at certain core SLAMS sites and one in three day sampling at all other PM2.5 and all PM10 sites. In order to collect sufficient data and at the same time conserve monitoring resources, the ARB and the local air quality management districts are proposing alternative sampling frequencies for PM2.5 and PM10.

5.1   PM2.5 FRM Sampling Frequency

Everyday sampling is not required at any of the four sites in the Mojave Desert Valley MPA as specified in the regulations, i.e., two sites per area over 500,000 population and one site per PAMS area. All other core PM2.5 monitoring sites are required to collect a sample once every three days.

During 1998, three monitoring sites in the Mojave Desert MPA will sample once every three days, as required, and one site will sample once every six days. On January 1, 1999, all sites will begin to sample once every three days, as required by the regulation.

Table 5.1.1   PM2.5 FRM Sampling Frequency

Site Location	AIRS Site ID	Operating Agency	Sampling Frequency	
			Required	**Proposed**
Lancaster-W Pondera Street	060379002	AV	1 in 3 day	1 in 3 day
Ridgecrest-Las Flores Avenue	060290012	KER	1 in 3 day	1 in 3 day
Victorville-Armagosa Road	060710014	MD	1 in 3 day	1 in 3 day
Mojave-923 Poole Street	060290011	ARB	1 in 3 day	During 1998: sampling on a 1 in 6 day schedule. Beginning January 1, 1999: as required.

AV   Antelope Valley APCD
ARB   California Air Resources Board
KER   Kern County APCD
MD   Mojave Desert AQMD

5.2   PM2.5 Chemical Speciation Sampling Frequency

The federally required sampling frequency for PM2.5 chemical speciation is once in 12 days. This sampling frequency may not be sufficient in some cases to adequately support plans to control PM2.5 source emissions. The appropriate sampling frequency will be determined at a later date and will depend largely on PM2.5 data needs and available resources.

5.3   PM10 Sampling Frequency

The new U.S. EPA minimum requirement for PM10 sampling frequency is once every three days. The Air Resources Board and the local air pollution control districts in California are requesting that the U.S. EPA Region 9 grant a statewide waiver allowing sampling at the current schedule of 1-in-6-day, with certain exceptions to be determined on a case-by-case basis. To demonstrate changes in the attainment status for the national 24-hour PM10 standard, more frequent sampling may be needed. Monitoring sites with maximum 24-hour concentrations close to the 24-hour standard may be required to sample everyday or at least on a 1-in-3-day schedule.